provisionings occur amongst those tribes on account of the entry of parasitic insects who devour everything. So that an additional instinctive act which could produce any alteration in the shape or arrangement of the tunnel and chamber-making, which would benefit and tend to preserve the future larva, would assuredly be perpetuated by descending to subsequent generations. The antechamber of Odynerus meets every difficulty and want. Its fragile nature will not permit the intruder to pass along without breaking it down and covering the hole in the tunnel, and when it is broken down by the dying insect it effectually closes up the scene of its labour and hides the offspring from harm. The only satisfactory hint which can be gleaned respecting the origin of the provisioning of chambers in which an egg is left, is obtained by Fabre's study of the habits of *Bembix vidua*. This mining wasp lays an egg which hatches very shortly, and the little mother visits its living offspring every day and brings it small larvæ, stung to keep them quiet at first, and then larger larvæ as the little cannibal increases in size. All this time the Bembix is a vegetarian, but she is known to sip the honey which may be on some of her victims.

The instinct of a Bembix may have been altered by its eggs not hatching, and a series of victims may have been placed in the chamber automatically, instinctively, and without what is called reason. There is of course the possibility of memory existing during the quiescent stage. Does the butterfly remember its existence as a gormandising caterpillar, and therefore retain some notion of the propriety of laying eggs over cabbages? Does the Odynerus fly remember its underground life, and obey some impulse to provide the unseen offspring with food different to that which she loves? It is possible; and as nothing is too wonderful for psychologists, there may be something in the suggestion.

It is evident that the influence of external conditions which are antagonistic to the comfort and well-being of many insects is often neutralised by a happy and protective contemporaneous change of form and habit. On the contrary, as in the instance of larvæ which hybernate and do not turn into pupæ before severe weather sets in, or in the case of hybernating butterflies, all connection between existing external conditions and the time and nature of the metamorphosis is often indistinguishable. But this apparent anomaly may be explained when it is remembered how long-lived many species and genera of insects are, how persistent some forms have been through considerable geological periods, and to what numerous changes of climate they may have been exposed during forced emigration, or even whilst being on the same area. The commingling of several insect faunas which must have occurred over and over again during the later geological period of the world's history, will quite account for closely allied forms presenting modifications of the general kind of change of structure and habit.

All the relations of the metamorphoses to changes in the inorganic kingdom of nature, *i.e.*, to alterations in the external physical conditions surrounding insect forms, is doubtless within the scope of law. The insect host is innumerable, and the variations in external physical conditions must have been repeated during vast ages; yet the kinds of metamorphoses and their modifications are few in number and are singularly pronounced.

NOTES

A VERY large number of noblemen and gentlemen, members of the Society of Arts, have signed a memorial to Her Majesty's Government, in which, after referring to the great benefit conferred by the opening of the Bethnal Green Museum, and the immense number of people (upwards of 700,000) who have visited it in three months, they "submit that this museum could never have come into useful existence, and have been instrumental in conferring these benefits on the people, without the aid of Parliament; and they desire to press this fact upon the consideration of Her Majesty's Government, with the hope that they will submit to Parliament the policy so essentially national of voting increased means to facilitate the establishment of museums, libraries, and galleries of Science and Art in large centres of population, wherever such localities are willing to bear their share in the cost."

THE list of candidates for the Mathematical School at the University of Oxford numbers 132, against 206 in the Classical. Of these, 14 are candidates in honours. In the Natural Science School there are eight candidates for the Final Examination, all in honours.

AT a meeting of the Arts School at Cambridge this week, a discussion arose on the report of the Museums and Lecture Rooms Syndicate, recommending the erection of additional accommodation for students in physiology and comparative anatomy. Mr. J. W. Clark and Prof. Humphry warmly advocated the adoption of the report, the latter remarking that the sum was small, compared with that expended at Leipsic, Amsterdam, and other parts of Europe. No decision appears to have been arrived at.

AN anonymous friend has just given to the Council of the Midland Institute the large sum of 2,500*l.*, to be expended in scholarships for encouragement of the study of practical physiology, more especially that branch of it which is concerned in the amelioration of the sanitary condition of the poor. This noble gift is prompted by remarks which were made by Canon Kingsley in his opening address to the Midland Institute.

THE *Academy* announces the recent death, at Göttingen, of the great mathematician Klebsch, at the age of forty.

A LARGE number of eminent physicians, chemists, and others belonging to various countries in Europe, have formed themselves into a union for the laudable purpose of constructing a general European Pharmacopœia. At the meeting of the Pharmaceutical Society, on November 6, Dr. Thudichum gave an interesting address on the subject, in which he showed that during the last 200 years many men had tried to realise the idea of a general pharmacopœia; but as these attempts were mostly made by single individuals, each of whom endeavoured to carry out his own idea in his own way, failure was necessarily the result. It is likely that the present co-operative attempt will be more successful.

M. BABINET, of the French Academy, whose death we recently chronicled, was born at Lusignan in 1794, educated at Metz, and entered the Artillery, which he quitted in 1815. After having been Professor of Physics in the College of Fontenay-le-Comte, and afterwards at Poictiers, he went to Paris in 1820, to occupy a chair of Physics in the College St. Louis. Until 1864 he was also Examiner to l'École Polytechnique in Physics, Descriptive Geometry, Applied Analysis, and Geodesy. His lectures at the Athenæum on Meteorology did much to foster a taste for the study of atmospheric phenomena. He was elected to the Academy in 1840 in the section of Physics. Previous to this he had distinguished himself in various ways, having done much to perfect the pneumatic machine, for which the Academy awarded him a prize. Besides this, he invented a goniometer, which bears his name, and in many memoirs recorded his optical experiments and researches, besides doing much to popularise scientific studies. The best of what he has written is collected in his "Études et Lectures sur les Sciences d'Observation."

TWO very interesting letters on Arctic Exploration appear in the *Times* of Tuesday last. Capt. J. C. Wells writes that he met Prof. Nordenskiöld's expedition when returning in Mr. Smith's schooner yacht *Samson* from a cruise to the north of Spitzbergen. The arrangements appeared very perfect, but the vessels were in no way fitted to contend with the ice. Captain Wells is of opinion that the North Pole may be reached during the summer months. The vessel should leave England in April, to enable her to arrive at the edge of the pack beyond Spitzbergen early enough to take advantage of the breaking of the ice from the edge of the main pack. Her return might be looked for in October of the same year. "At the present time," he adds, "Austria, Germany, Sweden, France, Russia, and even Italy, are in the field, striving, either by actual exploration or by tentative efforts, to form expeditions to reach the North Pole, simply for the advancement of science, while England alone remains inactive." Mr. B. Leigh Smith also writes that he met with the expedition inside the Norway Islands near Hakluyt's headland, on August 29. He believes they have made themselves comfortable for the winter months, somewhere on the north coast of Spitzbergen, and that no vessel has any chance of reaching them now.

Prof. Corfield has been elected Medical Officer of Health to the parish of St. George, Hanover Square. Dr. Corfield's appointment will make a vacancy in the Officership of Health to the parish of St. Mary, Islington. Mr. Haviland and Dr. Tidy will, we understand, again contest that appointment.

We learn from the *Medical Times and Gazette* that there will be a vacancy for a Demonstrator of Anatomy in the Charing Cross School of Medicine. A salary of 150*l* is attached to the office. Among the candidates is, we understand, Dr. Murie, late prosector to the Zoological Society.

From the same journal we learn that the Chair of Medicine at the Royal College of Surgeons, Ireland, is now vacant through the resignation of Dr. Charles Benson, who had so long and ably discharged the duties connected with it. We learn that several candidates have already entered the field, and that the selection of a professor will take place early in December. Among the candidates are Dr. Samuel Gordon, Dr. James Little, Dr. Henry Kennedy, and Dr. Arthur Wynne Foot. The emoluments are about 150*l*. per annum.

The French Government has lately struck a medal in commemoration of the discovery in 1868 by Dr. Janssen and Mr. J. N. Lockyer of the method of observing the sun's chromosphere without an eclipse. The medal bears on the obverse the portraits of Dr. Janssen and Mr. Lockyer, and on the reverse the chariot of the Sun, with Phœbus indicating the prominences round an uneclipsed sun.

Mr. Gladstone and Mr. Darwin having declined the Lord Rectorship of Aberdeen University, about to be vacated by Mr. Grant Duff, M.P., the contest lies between Prof. Huxley and the Marquis of Huntley, the Arts students mostly preferring the latter, and the medical students the former.

Prof. Spalth has been elected Rector of the University of Vienna.

The Natural History Mastership at Clifton College is now vacant, through the appointment of Mr. Barrington Ward to an Inspectorship of Schools. The teaching of Botany, Geology, and Physical Geography, and the elementary teaching of Mathematics, are comprised within the duties of the office, as well as the Curatorship of the Museum and Botanical Garden.

If anyone desires to know how lecturing, and especially scientific lecturing, is managed and rewarded in America, let him (or her) forthwith obtain "The American Literary Magazine and Lecture Season," published at the "American Literary Bureau." Here he will find the names of lecturers willing to lecture on all conceivable subjects, with the fees they are prepared to charge, varying from 50 to 250 dollars per lecture; while one lecturer, Mr. Froude, stands alone in his glory, priceless. The accuracy of this appraisement of talent is however somewhat marred when we read further that "to *some of the above* traveling and hotel expenses are added," while "terms may be modified for weak organisations and deserving charities." The managers of the bureau frankly announce that "a lyceum course must be pushed like any other business," while they give the managers of these institutions the valuable advice to "ignore all party or sectarian bias and choose brains." On the principle of "catching your hare," they therefore furnish the lyceums with eighty pages of choice of lecturers and subjects, advising them to pursue the plan of ranging "from gay to grave, from lively to severe," and give their patrons "at least one concert, one reader, one scientific lecture (not too heavy), and one humorous lecture." Dr. G. P. Quackenbos, in "Words considered humorously, and otherwise," an extensive programme, is undeniably cheap at $100; while Mr. Waterhouse Hawkins nicely values his repertoire of subjects from "The Age of Dragons" to "The Unity of Plan" of the animal kingdom, at from $100 to $112. Dr. Youmans will lecture on "English Institutions as Educational Hindrances" for from $100 to $125. Generals, Reverends, and ladies, are evidently the favourites of American audiences. Who will not go to the bureau where they can have a choice of Prof. Fisk on "Darwinism" for $100, and Miss Kate Stanton on "Whom to Marry" for $50? Although this may appear ludicrous enough to English ears, yet it has its serious and undoubtedly useful side. Some similar plan of providing unity of action and of organisation among English scientific lecturers would be of very great value. Will the scheme now under consideration of the British Association effect this?

The following is from the *School Board Chronicle*:—"Ten years ago the Federal Polytechnicon of Switzerland received from unknown hands a legacy of 50,000 francs, accompanied by an enclosed envelope, which, according to the testator's injunctions, was not to be opened until ten years afterwards. The time having now elapsed, the envelope was found to contain the name 'Johannes Schoch, citizen of Fischental.' The testator had formerly migrated to Milan, and there, by his judgment and industry, acquired a large fortune. The object of the donation was to secure competent teachers for the Polytechnic School."

The Royal Institute of Science, Literature, and Arts, in Venice, offers a medal of the value of 3,000 francs (120*l*.), to be awarded in 1874 to the author of the best essay on the following subject:—"The advantages derived by the medical sciences, especially physiology and pathology, from modern discoveries in physics and chemistry; with a retrospective view of the systems which prevailed in medicine in past times." The competition is open to foreigners, and the essays may be written in French.

A preliminary meeting for the purpose of forming a Medical Microscopical Society, which has been talked of for some time, was held on November 1, at St. Bartholomew's Hospital. A good deal of discussion ensued on the proposed society, and delegates from the various hospitals were appointed as a committee.

The family of the late Prof. Sir James Y. Simpson have presented a bust of the distinguished physician to the University of Edinburgh. It has been placed in the library hall.

We understand, says the *British Medical Journal*, that the medical students of the University of Aberdeen propose to issue a medical journal, which shall appear once a fortnight. Three advanced students will act as editors. It bears the name of the *Aberdeen Medical Student*. The undertaking shows very gratifying vigour in the Aberdeen school. We wish the promoters of the journal every success.

The same journal informs us that the new Professorship of Comparative Anatomy at the University of Dublin will have an endowment of 300*l*. or 400*l*. a year. The first holder will, we believe, undoubtedly be Dr. A. Macalister, Professor of Zoology; and in future the two chairs will go together, with an endowment, jointly, of 600*l*. or 700*l*. a year. Practically, the election may be considered as virtually decided. Trinity College will have in future two Professors of Anatomy—viz.: 1. Pure Anatomy, Human and Comparative; 2. Mixed Anatomy, or Medical and Surgical Anatomy. They will each have an income of 700*l*. Both professors must attend two hours daily in the dissecting-room.

WE learn from *Harper's Weekly* that the Hon. James Knox, of Knoxville, Illinois, U.S., now in Berlin, has presented Hamilton College, U.S., with 10,000 dollars for the improvement and endowment of its hall of natural history.

THE following is from the *British Medical Journal*:—"Two Russian ladies, Misses Olga Stoff and Sophie Hasse, have employed themselves during the autumn recess in investigating the circulation in the spleen, by means of injection and microscopic examination. Their researches, which were made on the spleens of frogs, pigeons, rabbits, mice, rats, and various other animals, as well as of the human subject, were carried on in Dr. Frey's laboratory. They have published an account of their examination and its results in the *Centralblatt* for Nov. 9."

A MEMORIAL portrait of the late Rear-Admiral Sir James Ross, the great explorer, subscribed for by several naval officers and men of science, has recently been placed in the Painted Hall of the Royal Hospital, Greenwich. What Sir James Ross did for North Polar exploration is well known.

THE 119th session of the Society of Arts commenced yesterday evening, when the opening address was given by Major-General F. Eardley-Wilmot, F.R.S., Chairman of the Council.

THE first course of the Cantor Lectures for the ensuing season will be on "The Practical Application of Optics to the Arts, Manufactures, and to Medicine," by C. Meymott Tidy, M.B., Joint Lecturer in Chemistry and Professor of Medical Jurisprudence at the London Hospital, and will consist of five lectures, to be delivered on the evenings of Nov. 25, Dec. 2, 9, 16, and 23. A second course will be given during the session by the Rev. Arthur Rigg, M.A., "On the Energies of Gravity, Electricity, Vitality, Light, and Heat, especially with reference to their measurement and utilisation."

THE winter course of lectures at the Museum of Science and Art, Edinburgh, commenced on the evening of Nov. 18, with the first of a series on "Chemistry," by Prof. Crum Brown. An interesting programme has been arranged, including, among other items, six lectures by Prof. Geikie on the "Superficial Formations of Scotland," and as many on "Sound" by Prof. Tait.

ACCORDING to the latest bulletin from Regent's Park, young Hippo, whose birth we chronicled a fortnight ago, and who is now sixteen days old, is thriving famously, being plump and well-developed, standing firmly on his legs, trotting briskly about after his stupendous mama, and imitating all her actions. It is to be hoped that the admirable precautions taken by those in charge will be successful in preserving the life of the little stranger till it can take care of itself.

THE following is from the *Athenæum*:—"The Maharajah of Cashmere is desirous of having several scientific works translated from the English into the Sanscrit language; and as he understands that there are many able scholars in England and Germany, he has placed the matter in the hands of Col. Nassau Lees, who is to select competent persons for the work. His Highness has had some works already translated in Calcutta. He has requested that, as the first instalment of the European series of translations, Prof. Liebig's work on Chemistry, or some other standard work on the same subject, should be one of the works translated. An undertaking of this sort ought to prove most useful."

IT is understood that Dr. Schweinfurth, the eminent German geographer, is about to return to Central Africa with a view of continuing his explorations, especially in the line of botany. His brother, a merchant at Riga, has contributed a large sum of money, the interest of which is to be used by Dr. Schweinfurth in his present undertaking; the principal afterwards to be given to the Polytechnic School at Riga to found a prize to defray the travelling expenses of such explorers in the future as have been students of that establishment.

WE hear that a most important desideratum in Biblical Archæology has been supplied by the diligence of Mr. George Smith, of the British Museum, who has discovered among the Assyrian Records an account of a deluge similar to that recorded in Genesis. Mr. Smith will read a paper on the subject next month before the Society of Biblical Archæology.

WE learn from *Harper's Weekly* that with commendable enterprise Messrs. Maynard & Dean, of Massachusetts, announce their intention of publishing a periodical entitled *American Ornithology*, to be devoted to the scientific and popular history of birds. It is to appear bi-monthly, at the rate of five dollars a year, and will consist in part of popular articles on birds, and in part of more elaborate and technical memoirs. Each part will consist of about forty pages, and will contain a coloured plate of some new or little-known American species. In view of the difficulty of sustaining special journals, this enterprise is one of no little daring, but will, we trust, be justified by the result. At present there are but two periodicals exclusively devoted to birds; one of them, the London *Ibis*, published quarterly; the other, the *Journal für Ornithologie* of Cabanis, published bi-monthly in Leipsic.

MR. WORTHINGTON SMITH records in the *Gardener's Chronicle* some very curious cases of "mimicry" in fungi. He mentions several instances in which a rare fungus so closely imitates another common one belonging to a different sub-genus or even genus in all superficial characters as to be with difficulty distinguished from it, and is always found in company with it. It is difficult to conceive that this "mimicry" is of any value to the "mimicing" fungus except, as Mr. Smith suggests, that it has certainly hitherto prevented the detection and consequent destruction of rare fungi by collectors!

WE learn from the *Academy* that Prof. Tschermak has published a new catalogue of the meteorites in the Vienna collection. At the date of issue (October 1, 1872) the mineralogical museum contained specimens representing 182 falls of meteoric stones, and 103 falls of meteoric iron. Letters appended to the name of each aërolite in the list indicate its position in a classification which has been based chiefly on the constituent minerals, certain distinctive physical characters of these minerals also being used in arranging them in subdivisions.

THE Haggerstone Entomological Society, which was established in 1868, and is composed of working men, commenced, on Thursday evening last, its Annual Exhibition at No. 10, Brownlow Street, about a hundred yards from the Haggerstone Station on the North London line, and it is well worth a visit. The members are all practical entomologists, meeting one evening a week for the study of the science, with the aid of a good cabinet of Lepidoptera, and other facilities for advancement; and this fifth exhibition shows that they have not worked in vain. Among the specimens, which are at once rare and varied, are some fine ones of the *Vanessa antiopa*. This is one of the rarest butterflies found in this country, but during the last season it was (as we announced some time ago) far more abundant than it had been for many years before, and the Haggerstone collectors seem to have bestirred themselves accordingly.

WE have just received the winter programme of the Chester Society of Natural Science (President, the Rev. Canon Kingsley), and a hopeful one it is, showing that the members are no mere *dilettanti*, but are anxious for work likely to produce results of high value in all the three sections into which it is divided—Botany, Zoology, and Geology. Their district is the four squares on the old Ordnance map of which Chester is the centre, and much has already been done by the members to elucidate the natural history of that district, although the Society has existed only 18 months. It numbers over 300 members. Dr. Stolterfoth and Mr. Liddell are energetically working the Diatomaceæ and Foraminifera of the Dee, and lists of these, we believe, will shortly be published. Several other members are actively at work in all three departments; the results of this work we hope to see in a permanent form. On the 27th inst., the President, Canon Kingsley, will read a paper on "Deep Sea Dredging," and on January 30, Professor Boyd Dawkins one on his favourite subject—"Cave Explorations."

We learn from the *Athenæum* that the Government of Colombia, or New Granada, has extended for five years the grant to Mr. José Triana to enable him to publish in London, in Spanish, "La Flora Colombiana," and the Botanical Geography of Colombia.

We are glad to learn that a good deal of attention is being given to the systematic study of science in Glasgow by members of the teaching profession actual and prospective. Mr. E. M. Dixon, B.Sc. (London), one of the lecturers in the Established Church Normal Training College, has for several sessions regularly given a very comprehensive course of instruction in physiology to the male students in training; and this year the female students have been introduced to the study of botany by Mr. Robertson, another of the lecturers in the Glasgow Training College. It is understood that the Free Church Normal College is also about to do something in science teaching. Mr. John Mayer, F.C.S., has, during the last few years, had large classes of pupil teachers in physiology, and of schoolmasters and assistant-schoolmasters in physiology, chemistry, and metallurgy, the class for teachers being held on Saturdays, so as to be suitable alike for town and country students. It is evident that Scotland is becoming more alive to the value of science as a means of intellectual discipline and culture. In many little towns and villages north of the Tweed, special science classes are now in course of establishment for the first time.

We learn from the *Journal of Botany* that a Flora of Portugal is announced as in preparation by Señor Baroo de Castello de Paiva. It will include all the additions made since 1804, the date of Brotero's excellent Flora Lusitanica.

AMERICAN SCIENTIFIC INTELLIGENCE*

The arrangements for an extended exploration of the Pacific Ocean by the Navy Department of the United States, have been brought almost to a conclusion, and it is understood that the *Portsmouth*, under Captain Skenett, will leave New York about the middle of November for the scene of operations. The vessel will proceed, with only the necessary stops, by way of Cape Horn, to the west coast, and will commence her work in the Gulf of California. Two years will probably be spent in the investigation of the hydrography of the peninsula, including the entire gulf region, as also in the exploration of the Revillagigedo group of islands. A subsidiary object, to receive a due share of attention, will be a general investigation into the physics and natural history of the deep seas and of the adjacent islands. Dr. Street, the surgeon of the expedition, has already distinguished himself as a naturalist and a collector in the Darien expedition, and will doubtless win new laurels on the present occasion. The astromomical department will be in charge of Paymaster Tuttle, well known as the discoverer of an asteroid and of a telescopic comet. The *Narraganset*, now on the Pacific station, has also been detailed for the same service, and will probably refit at Callao for the purpose. There are few portions of America more interesting in a natural history point of view than that to be immediately explored by this expedition, the Galapagos themselves being scarcely more noteworthy. This is shown by the researches of Mr. Xantus and of Colonel Grayson. The former gentleman spent several years at Cape St. Lucas, in the service of the United States Coast Survey and of the Smithsonian Institution, and obtained large numbers of specimens in all branches of natural history, many of which were entirely new to science. Colonel Grayson, in his explorations of Socorro Island, one of the Revillagigedo group, found that, as at Cape St. Lucas, there were many animals peculiar, or unknown elsewhere, most of them being then undescribed. They have, however, lately been published by Mr. George N. Lawrence, in a memoir of the collections of Colonel Grayson.—Professor Marsh announces the very important discovery of fossil quadrumana in the eocene deposits of the Rocky Mountains. The genera *Limnotherium*, *Thinolestes*, and *Telmatolestes* are, in his opinion, closely related to the lemurs, especially in the correspondence of the larger bones. The teeth are more numerous than in any known quadrumana, some species having apparently forty—namely two incisors, one canine, and seven premolars and molars on each side of each jaw. The professor also describes a new genus of large carnivora, under the name of *Limnofelis latidens*, in which the canines and premolars of the lower jaw resemble those of the hyena, but with only two incisors on either side. The single species, *Oreocyon latidens*, is supposed to have been as large as a lion. Another novelty consists in a cretaceous reptilian, allied to *Mososaurus*, and possessing peculiar characteristics. The animal has been called *Colonosaurus mudgei*, after the discoverer, Professor Mudge, who obtained the remains in Western Kansas.—Mr. J. F. Whiteaves, of Montreal, has completed his investigations into the deep-sea fauna of the Gulf of St. Lawrence, already mentioned as undertaken in continuance of those of last year; and he is now engaged in preparing his report for presentation to the Minister of Marine and Fisheries, at Ottawa. The greatest depth reached by him was 310 fathoms, off the south-western end of Anticosti, where he obtained a *Virgularia*, and specimens of *Pennatula* additional to those secured last year. He also found an interesting cup-shaped coral about an inch across the disc. — Recent advices from Mr. Stevenson, director of the Snake River division of the United States Geographical Survey, under command of Professor Hayden, announce the arrival of the entire party at Fort Hall on the 11th of October, the Snake River Basin having been carefully explored by them. The party reached the Geyser Basin the last of July, having obtained supplies from Virginia City, *viâ* Madison Valley. They followed the Madison River to its source in a small lake, and crossed the "divide" to Madison Lake, which they found to have no connection with Madison River, but with an outlet about one hundred feet wide, flowing in an opposite direction from the one given on the maps. They followed this to its entrance into another lake about five miles wide, and which proved to be the real source of Snake River. They found a geyser basin near the sources of Snake River, with about two hundred springs of all sizes, some of which spouted eighty to one hundred feet in height. Mr. Stevenson divided his party above the Snake River Cañon into two portions, one of which passed through the cañon, and the other explored the Teton Pass, both meeting again at the lower end of the cañon. The division under the immediate direction of Professor Hayden reached Bozeman on the 14th of October, having completed the season's labours. Every step is said to have been a success, and the amount of valuable material of scientific and practical value to far exceed that of any previous year. The Professor and his assistants proceed at once to Washington to prepare the report, to be presented to Congress for publication at an early date. Just before closing his field labours, Professor Hayden's party had explored the Gallatin River to its source, and completed the examination of the Yellow Stone by descending it to Mount Shields River, thence returning to the Three Forks. He expected to visit Helena before proceeding to Washington, for the purpose of determining its latitude and longitude. His astronomers had already fixed the geographical position of Virginia City, Fort Ellis, and Fort Hall.—One of the most striking of the many interesting discoveries of vertebrate fossils made in the wonderfully rich formations of the West is that of a fossil bird obtained by Professor Mudge in the upper cretaceous shale of Kansas, and described by Professor Marsh. The remains indicate an aquatic form about the size of a pigeon, but differing widely from all known birds in having biconcave vertebræ. The rest of the skeleton, however, is quite similar to that of the average type. The species has been named *Icthyornis dispar*.

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* Communicated by the Scientific Editor of *Harper's Weekly*.